DOCUMENT RESUME

ED 413 879 IR 018 631

TITLE	Study of School Uses of Television and Video. 1996-1997 School Year Summary Report.
INSTITUTION	Corporation for Public Broadcasting, Washington, DC.
PUB DATE	1997-00-00
NOTE	32p.; Printed on colored paper.
AVAILABLE FROM	Corporation for Public Broadcasting, Publications, 901 E Street, N.W., Washington, DC 20004-2037 ($5). Full technical report for this study available ($30 nonprofit and government organizations; $60 all others).
PUB TYPE	Books (010) -- Reports - Evaluative (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Cable Television; *Classroom Techniques; Computer Uses in Education; *Educational Television; Elementary Secondary Education; Films; Internet; *Mass Media Role; *Mass Media Use; Multimedia Materials; Programming (Broadcast); Public Television; Teacher Attitudes; *Television Viewing; Video Equipment; Videotape Recordings
IDENTIFIERS	Corporation for Public Broadcasting

ABSTRACT

This summary provides an overview of the findings from the 1997 Study of School Uses of Television and Video, which surveyed principals (n=1,059) and teachers (n=1,285) throughout the U.S. The study analyzed key measures of the use of television and video for instruction in U.S. schools in terms of availability of equipment, programming, support, and other resources; patterns of use in classrooms; and educators' attitudes and expectations for outcomes. It also examines the impact of computer technologies--particularly multimedia and the Internet--on classroom practice. TV and video are highly valued as teaching tools, seen as especially effective for reaching visual learners and special populations. TV and video are being used more deliberately and are being more fully integrated into the curricula. Teachers look for quality programming, programs of appropriate structure and length, and advance information to allow them to preview and tape. Teachers overwhelmingly named PBS programs as very valuable and used them frequently because of their high quality and appropriateness. Students and teachers are becoming more media savvy, increasingly using camcorders and other video production equipment. The focus on computer acquisition and use has not replaced television in the classroom. An appendix summarizes the study design and methodology. (Author/SWC)

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ED 413 879

Summary Report

Study of School Uses of Television and Video

1996-1997 School Year

CORPORATION FOR PUBLIC BROADCASTING

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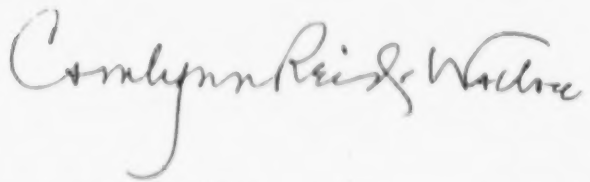
Preface

Public broadcasting and the nation's schools share a similar commitment to the education of all Americans. Informally, public television and public radio stations across the country seek to enrich the creative and intellectual lives of their communities by broadcasting fine programs for viewers and listeners of every age. Yet since its inception, public broadcasting has held a special place in America's classrooms and developed a special relationship with teachers and students. Public television stations offer an impressive variety of services to the schools in their communities: Distance learning, technology training for teachers, collaborative Internet projects, and curriculum-focused instructional television programming are only a few examples.

Many people made significant contributions to the design and execution of the current study. Colleagues at the Corporation for Public Broadcasting and staff at the Public Broadcasting System assisted us immeasurably. Wendy Charlton directed this study for CPB. Helene Jennings, Elaine Pierrel Robey, and Wendy Mansfield of Macro International effectively implemented the study design including data collection and analysis. The project advisory group provided insightful comments that helped to shape the study. Eight organizations, representing educators nationwide, lent support by endorsing the study: the American Association of School Administrators, the American Federation of Teachers, the Association for Educational Communications and Technology, the National Association of Elementary School Principals, the National Association of Secondary School Principals, the National Education Association, the National School Boards Association, and the Public Broadcasting Service. Above all, thousands of principals and teachers juggled their busy schedules to respond to our questions.

The cooperation of all of these individuals and organizations has resulted in a study that both tracks trends related to television and video use and provides a snapshot of current technology use in classrooms throughout the United States. At the Corporation for Public Broadcasting, the business of teaching and learning in America's schools is of the highest priority. That priority and deep belief is reflected in the publication of CPB's *Teachers' Digest*, in our support of the Ernest L. Boyer Technology Summits for Educators—and in the publication of this study.



Carolynn Reid-Wallace
Senior Vice President, Education and Programming

Cover photograph courtesy of Joe Sinnott/WNET

Introduction

Between February and June 1997, principals and teachers throughout the United States responded to questions about the availability, use, and support for instructional use of television, video, and computer technologies.

A total of 1,059 principals and 1,285 teachers completed questionnaires. The study's results can be generalized to virtually all public schools in the United States: 11,129 districts, 68,387 schools serving students in kindergarten through grade 12, and approximately 2,286,866 teachers.

In order to understand some of the national data and to gain a better perspective on the classroom of today, 127 teachers were contacted by telephone for an in-depth interview. Most of the teachers were active users of television and video media and some focused more on the use of computers. They were all open about their classroom experiences and their attitudes toward use of these technologies with their students. It is these teachers' comments that you will find quoted throughout the report.

This summary provides an overview of the findings from the 1997 Study of School Uses of Television and Video. It is the fourth in a series that the Corporation for Public Broadcasting has conducted over the last two decades—in 1976–77, 1982–83, and 1990–91. As television and other communications technologies have changed and become more complex and interconnected, the extent of the questions on availability and use has changed and grown. This study analyzes key measures of the use of television and video for instruction in terms of availability of equipment, programming, support, and other resources; patterns of use in classrooms; and educators' attitudes and expectations for outcomes. It also examines the impact of computer technologies—particularly multimedia and the Internet—on classroom practice.

CPB has sponsored the study and this report to assist professionals in education, broadcasting, and government to make more effective use of television and video in the classroom.

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6 Meeting Curriculum Needs

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8 Programming Needs

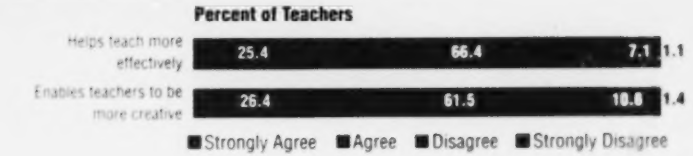
9 Support for TV and Video Use

10 Trends and New Technologies

12 Conclusion

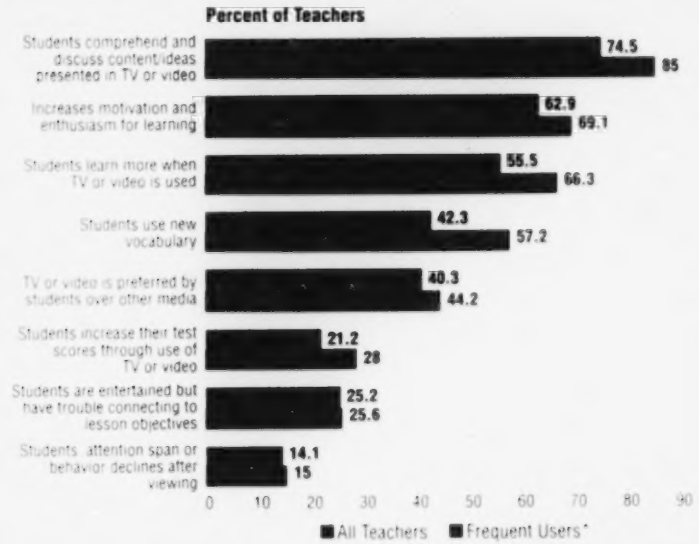
Teacher Attitudes

Teacher Attitudes on Classroom Use of TV and Video



Teachers value the contribution that television and video make to their classrooms. Teachers are overwhelmingly positive about the influence that these technologies have on their teaching—92 percent say that using TV and video helps them teach more effectively, and 88 percent find that it enables them to be more creative. "Being able to utilize the resources of the producers who have spent a great deal of time researching and retrieving archival footage extends what a teacher can do in the classroom as a presenter," explained one teacher we interviewed. Teachers acknowledge that there are many demands on their classroom time but they reject the notion that the use of television or video distracts from critical tasks: 72 percent *disagree* with the statement that using it "limits the time for other important activities with students." Rather, they find that TV and video use reinforces lectures and readings, provides a common base of knowledge, and shows things that students would not otherwise experience.

Student Outcomes Attributed to Use of TV and Video



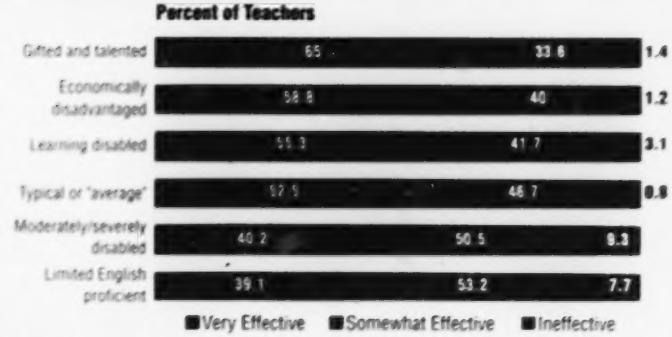
* Frequent users are those who report using TV or video for 2 or more hours per week

Teachers observe highly positive student outcomes as a result of using instructional television and video. The most pronounced effect of media use noted by teachers is that students comprehend and discuss the content and ideas presented—an effect reported by 75 percent of all teachers, and even more of the frequent users (85%). As teachers incorporate materials to accommodate different learning styles, they find more students grasp the material. Teachers also credit TV and video with increasing motivation and enthusiasm for learning (63%), and they find that students learn more when they use TV and video (56%). Again, frequent users are even more likely to see these benefits. All of these positive perceptions have increased over the 1991 CPB Study of School Uses, as teachers have become more adept at integrating the technology into their instruction. Teachers express little concern over potential negative effects. Only 14 percent say that students' attention span or behavior declines after viewing. One quarter think that students are entertained but have trouble connecting programs to lesson objectives.

"In the last 20 years, television has become a central part of the lives of our students. It can't take the place of the written word, but it is a very effective way to augment and enhance literature. Television has something that hooks the student and catches his eye. He relates to the medium as well as the message." Yukon High School

Teachers report that using television and video is effective with virtually all types of students—and their use is seen as increasingly effective for some special populations. The benefits of these technologies are particularly evident for students with learning disabilities or those who are economically disadvantaged. For these students, more than half of the teachers called TV and video "very effective." Teachers have increased their estimations of effectiveness since the last study: from 46 to 55 percent for students with learning disabilities and 41 to 59 percent for those who are economically disadvantaged. Teachers describe these media as providing a means to "level the playing field."

Effectiveness of TV and Video for Diverse Student Groups*



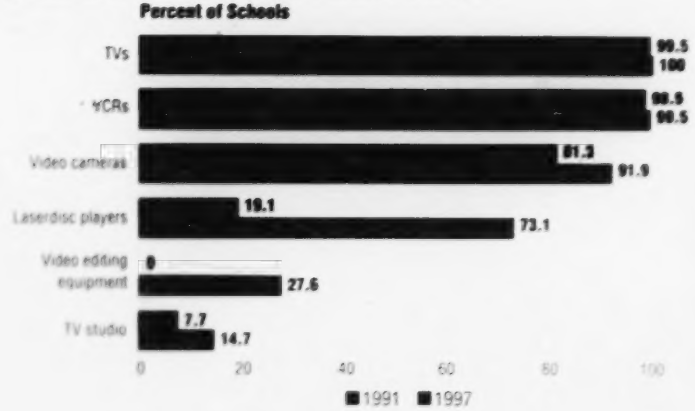
* Based on teachers who report experience or knowledge with each student group

Availability of TV and Video Equipment

More than ever, teachers have the equipment and support needed to use television and video in their classrooms. Virtually all teachers (98%) say that television and video is available in their schools to use in instruction. Two million teachers (98% of those with access) have used television or video in their classes within the past 5 years.

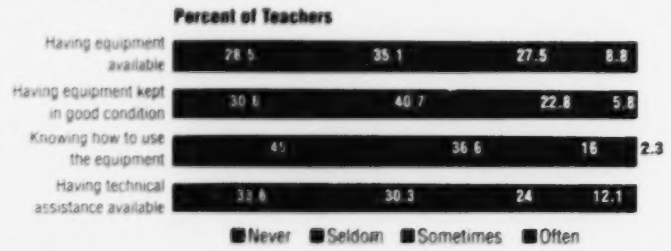
Throughout the '90s, schools have been increasing the number of television sets and VCRs available for teachers to use in instruction. Changes since the 1991 study have, for some technologies, been dramatic. On average, schools in 1997 have 21 standard television sets. Large-screen projection television sets are still a relative rarity, found in about one quarter of the schools. The typical school in 1997 also has 14 VCRs for teachers to use. Nearly three fourths of schools have laserdisc players, with the typical school having three. Other technologies in schools include video cameras, video editing equipment, and TV studios.

Availability of TV and Video Equipment in 1991 and 1997



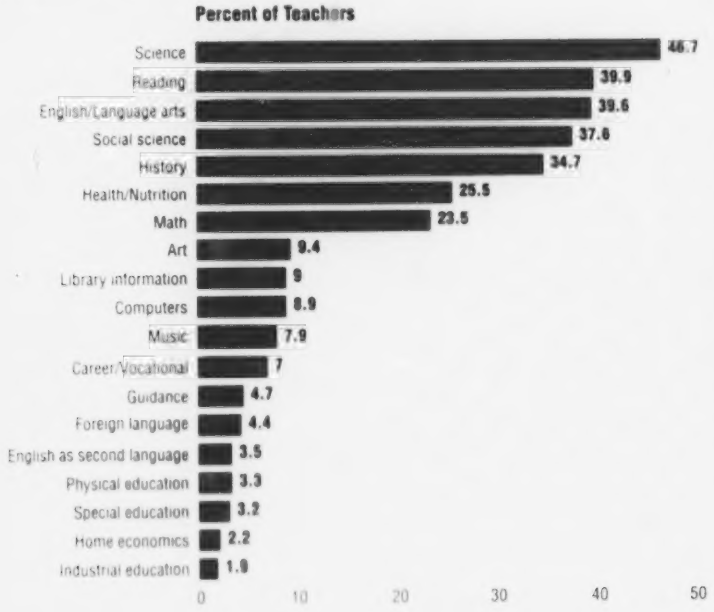
Equipment is kept in a variety of locations within schools. However, teachers can generally access TV and video equipment that is in good condition. Although shared use of equipment is most common, 44 percent of teachers say that the equipment they use stays in their classroom. This convenience is a marked increase from 1991, when just 29 percent reported that equipment stayed in their classrooms. Twenty-one percent of teachers use their own equipment for instruction. Problems that did generate concerns were inadequate equipment (e.g., small television screens for classroom viewing) and lack of technical assistance.

Difficulties Using TV and Video

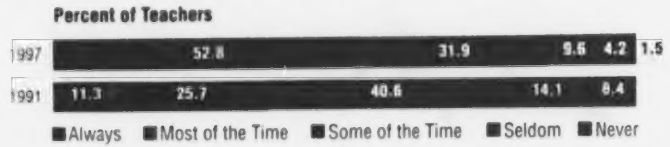


Extent and Patterns of Use

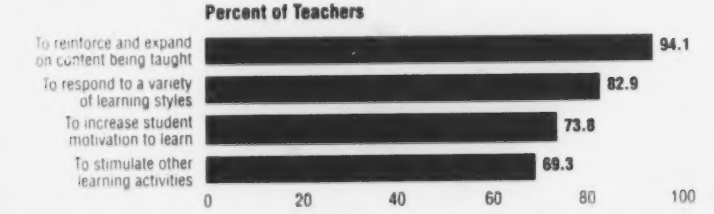
Subject Use of TV and Video in 1996-97



Teachers Relate Assignments to Content of TV and Video Programs



Objectives in Using TV and Video Given by Teachers


Percent of Teachers
To reinforce and expand on content being taught 94.1
To respond to a variety of learning styles 82.9
To increase student motivation to learn 73.8
To stimulate other learning activities 69.3
0 20 40 60 80 100

Teachers use television and video for instruction in all of the major subjects. As reported in the previous two studies, use of television is strongest in science, reading and English, and the social sciences. This finding reflects in part the subject areas of the responding teachers. This year's study did show a substantial increase in the English and language arts area, with a gain of 44 percent. The fields of health/nutrition and math also display relatively high usage. However, compared with the number of teachers who teach math, this field is underrepresented in TV/video use (less than half the math teachers use the media). Furthermore, math was the most requested subject for additional programming. Other fields with use by less than half of the subject teachers were art and physical education.

TV and video are almost always integrated into classroom activities. One of the most striking changes in the study findings from 1991 is the increased percentage of teachers who say that classroom assignments are always related to the television or video programs used. Now, 53 percent say they always relate them—compared with only 11 percent in 1991 and 7 percent in 1983 who directly tied viewing to other assignments.

A focus on strengthening the curriculum with television and video use is also reflected in teachers' statements about their reasons for using the media. Ninety-four percent have the objective of reinforcing and expanding on the content being taught in the classroom. Eighty-three percent also emphasize that the media can respond to a variety of learning styles by providing a visual component. Additional purposes from the teacher perspective are to stimulate other learning activities such as class discussion and homework (69%) and to increase student motivation to learn (74%).

"After the students view the video, I am able to see from their writing that they have a deeper understanding of the issues. Their questions make it evident that they are more vested in the subject matter and that they've been captured by the material." Inglewood High School

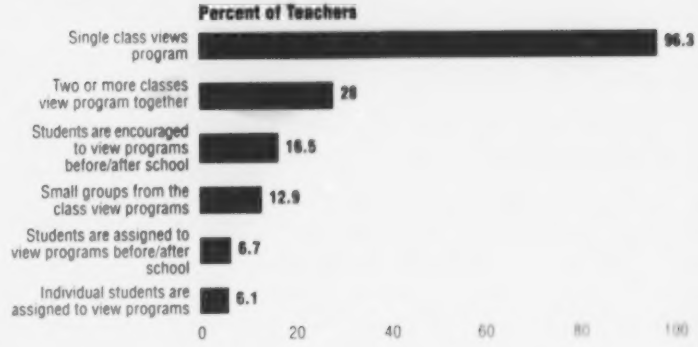
Teachers use TV and video primarily for whole class instruction. Because television and video are increasingly integrated into instruction, the entire class tends to view the program together. Often the teacher controls how the media are presented—showing segments, stopping the program for discussion, repeating some portions. The approach is much more purposeful and linked to the curriculum than noted in the past.

There has been a clear dropoff in teachers reporting two or more classes viewing a program together—only 28 percent, compared to 43 percent in the last study. Group viewing occurs primarily in elementary schools or in other schools with schedules that have some blocks of time longer than one hour, a factor that may encourage group use. Individual classroom use is made easier by a growing proportion of units being maintained in the teacher's own classroom. Teachers are also inclined to use their own equipment, as 21 percent reported in the survey (an increase of 64% from the 1991 survey).

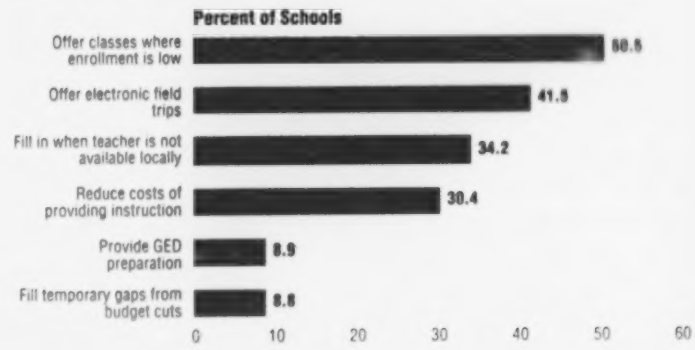
Live programming is used most commonly for distance learning. Most schools view television programming on videotape. Few schools view programs in real time. Just 13 percent of principals say that their schools participate in live televised programming for instruction. Most often this programming fills a need by reducing cost or providing instruction that cannot be offered locally. About two thirds of the schools using live televised instruction say that students can interact with the instructor. The most common means of interaction is voice via telephone (92%). However, more than half report two-way video capability or fax, and over one third have computer links. A relatively new application of live televised instruction is for electronic field trips. Although 61 percent of teachers say that they are not familiar with these field trips and another 24 percent report they have no access to them, the 3 percent using the full interactivity features of electronic field trips represent nearly 55,000 teachers nationwide.

Teachers are being more proactive about getting video into their classrooms. Ninety-three percent of teachers rely on TV programming on tape all or most of the time, rather than directly off-air. This use of tapes allows teachers to present the material when it is convenient, to show it to multiple sections of the same class, and to be more actively involved in how it is presented. Home recording constitutes a major source of their videotapes (67%), as do school media centers or district libraries and colleagues.

Viewing Arrangements Reported by Teachers



Reasons for Live Televised Instructional Course Use

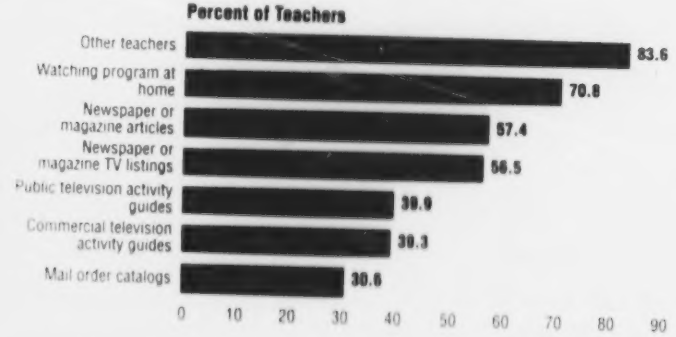


"For the teacher, showing a video used to mean just sitting back and watching—now students expect interaction. If a program is not interactive, it is considered a waste of time by the students." Wilcox Elementary School

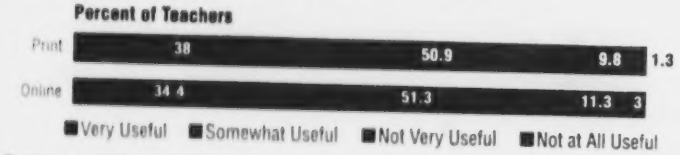
"Students have been raised on interactive media and presentations, and we have to adjust our teaching styles." Stanley Intermediate School

Meeting Curriculum Needs

Sources of Information on Television and Video Programs

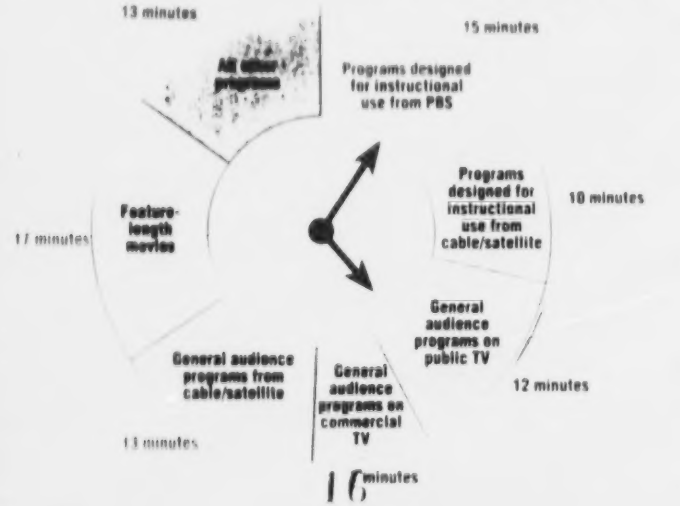


Value of Print and Online Guides to TV and Video Programming*



* Based on teachers who use guides

Amount of Time per Week Various Programs Are Used: 88 Minutes Total



Teachers learn about TV and video programming in a number of ways. Teachers learn about TV and video programs from a variety of sources. The most common source of information is colleagues—other teachers who may be teaching the same subject or grade level. Home viewing, TV listings, and newspaper or magazine articles are other common sources. Guides developed specifically for teachers—such as *CPB Teachers' Digest, PBS Teacher Connex, Cable in the Classroom,* and local PBS station guides—are another important source of information. A small—and probably growing—percentage of teachers are accessing online information sources such as PBS Online.

Most teachers find the information sources targeted specifically to teachers quite useful. Although 20 percent do not receive print activity guides and 60 percent do not or cannot access online activity guides, most who do have access find that the materials are of assistance in planning.

Teachers draw from a wide variety of resources to bring television and video into their classrooms. Teachers do not limit themselves in looking for programming appropriate to their students and the curriculum. In a typical week, teachers use TV or video for 88 minutes. Public television is the largest source of programming used in the classroom—27 minutes per week. There have been some noteworthy changes in the pattern of use since the last study. Feature length movies now constitute 17 minutes per week, a decrease of 5 minutes. Use of public TV programs designed for instructional use has increased from 11 to 15 minutes weekly. General audience programs are brought into the classroom from public television (12 minutes) and from cable or satellite (13 minutes). The amount of programming used varies from 82 minutes in elementary schools to 94 minutes in senior high schools.

"It is difficult for a teacher to compete with a professionally produced program. NOVA or National Geographic, for example, can do so much more in a shorter amount of time than a teacher could ever dream of doing."

Martinsville High School

Popular Programs

Teachers name programs on public television as the best ones they used during the 1996–97 school year. Teachers were asked which programs they consider best for instructional purposes. They listed 1,185 different titles, programs, or series. Programs broadcast by public television stations again dominated the list of most frequently cited programs, providing nine out of the top 10.

Reading Rainbow topped the list, as it did in 1991, named by a higher percentage of teachers than ever. The Magic School Bus and Bill Nye the Science Guy, elementary school favorites, were the next most mentioned. All eight of the elementary school choices in the top 20 were PBS programs. Middle schools contributed to the high ranking of National Geographic and Ken Burns' Civil War. Middle school teachers also cited movies (Diary of Anne Frank and Glory) and After School Specials (ABC). High school teachers were the most eclectic, listing NOVA, Eyes on the Prize (about the civil rights struggle), Nature, and Scientific American Frontiers, in addition to the Civil War as public television favorites. "Miracle of Life" on NOVA was singled out for its value. Others on the high school list were the Biography series (A&E), 60 Minutes (CBS), CNN Classroom, and several movie titles.

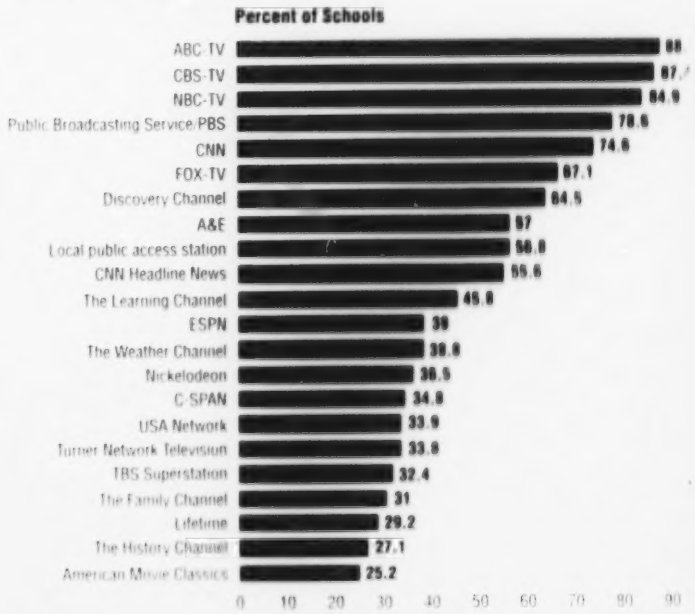
Increasingly, schools have access to a full range of broadcast, cable, and satellite channels. Nearly 8 out of 10 schools have access to public broadcasting service programming. Only major broadcast networks have greater availability in public schools. In this decade, besides direct broadcast capabilities, schools have added cable or fiber systems (in 78% of schools, compared with 64% in 1991) and satellite systems (which doubled to 33% of schools in this period). A reflection of this change is a major increase in the number and penetration of channels. On the whole, schools with access to both commercial television and public television channels increased by roughly 20 percentage points. Some channels accessed by cable and satellite increased even more.

"Older generations will have to see and accept the shifts that are taking place . . . We need public awareness and education as to the benefits of television as an educational tool." Wilcox Elementary School

Top 20: Programs Named Best for Classroom Use by Teachers

Reading Rainbow	268,373
Magic School Bus	173,798
Bill Nye	166,646
National Geographic	145,821
NOVA	88,769
3-2-1 Contact	63,286
Biography	58,134
Civil War	45,193
Nature	39,612
Wishbone	38,187
Sesame Street	28,605
After School Specials	25,676
Arthur	25,276
Eyes on the Prize	24,544
60 Minutes	22,549
CNN Classroom	21,324
Kratts' Creatures	19,032
Scientific American Frontiers	15,563
Diary of Anne Frank	15,124
Glory	13,591

School Access to Television Channels*



* All channels named by more than a quarter of schools are listed

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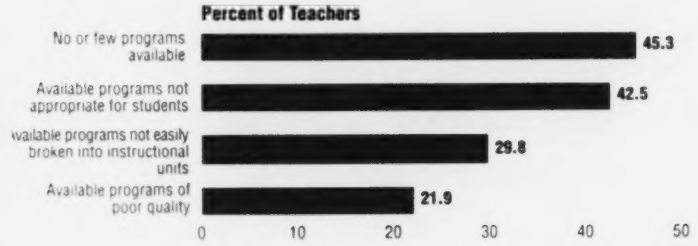
TV and Video Programming Deficiencies



"I use a program only if I think it is special, if it explains something better than I can, or if it shows them a demonstration I can't do. I go over the basics; television enhances my lesson." Northside Middle School

"We are getting so much more technology and programs, but no more time. You have to make a choice. I'm not using television less, but using it better. I'm using technology more than lecturing." Eden Lake Elementary School

Programming Needs

Despite the wide range of channels to which schools have access, teachers often have difficulty finding appropriate programming. Teachers reported a number of difficulties in finding appropriate programming, particularly in their own major areas of interest—math, English/language arts, science, and social studies.

Teachers say that programming at just the right level of complexity for the age group they teach is at times hard to come by. Often teachers can find material on the topic but the program may be too advanced or too basic for their students. For example, elementary school teachers say that finding appropriate science programming is a challenge, and middle school teachers have a similar difficulty locating English programming. Teachers at all levels, but particularly elementary school teachers, expressed a need for additional math programming. Although poor quality is the least often named deficiency, special education teachers in particular noted that programs that are targeted to their students are of poor quality.

For secondary school teachers, finding programming that can be used effectively in a single class period is sometimes difficult. Programs that cannot be easily broken up present challenges to teachers who would like to use more TV and video, but feel the need to "cover the curriculum" in standard, time-tested ways. As teachers have become skilled in using TV and video in bite-sized pieces to illustrate a concept or make a point, they are increasingly looking for programming that lends itself to this kind of use.

In telephone interviews, teachers were asked to name specific topics on which they would like to see additional programming developed. The list is exhaustive and includes something for every subject area treated in the typical K–12 curriculum. Even topics that have been addressed and addressed well, such as the Civil War, are fertile ground for new programming that targets a different level of student.

Support for TV and Video Use

Funding for TV and video equipment and materials comes from a variety of sources. Schools are resourceful in getting funding for the equipment and materials they need. In addition to federal, state, and local school funds, principals report that parent/teacher organizations, other community organizations, corporate sponsors, and retailers are providing funds to support acquisition of TV and video resources. In addition, just as teachers use their own TV and video equipment in the classroom, 68 percent of teachers are using their own funds to rent or purchase videos.

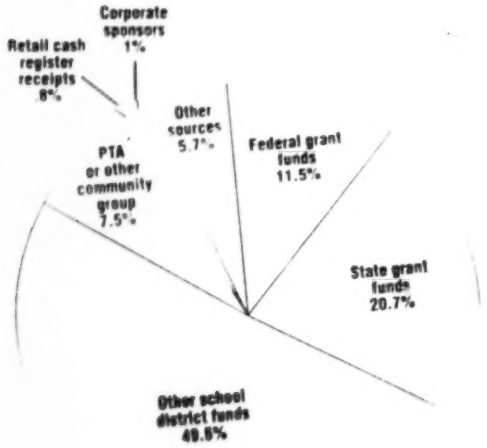
Spending levels for TV and video equipment and materials appear to be relatively stable. Nearly half of the schools responding said that financial support in school year 1996–97 was approximately the same as in the past 3 years and that anticipated spending for the next school year would be at the same level.

School districts typically encourage teachers to use TV and video in the classroom, but teacher discretion prevails. Both administrators and teachers believe that use of television and video is encouraged. While there are some differences in the perceptions of principals and teachers on the degree to which use is encouraged, few believe that use of television and video in the classroom is discouraged. In telephone interviews, teachers stated that they had complete autonomy in use of video as long as it fit with the curriculum and did not violate copyright laws. Fewer than 10 percent of those interviewed felt that their school's policies on TV and video use were overly strict or restrictive.

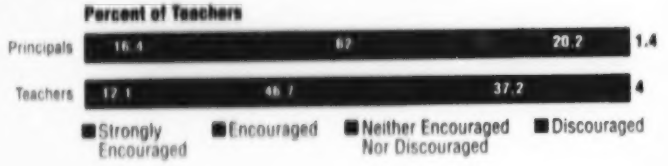
Teachers are receiving training and technical assistance to support classroom use of TV and video. Nearly half (46%) of principals say that their districts provide in-service training on the instructional use of TV and video. Fifty-nine percent of teachers report that they have received training in classroom use of TV and video at some point in their careers, and of these, 71 percent have received such training within the past 5 years. The vast majority of teachers (85%) who have received training say that the training met their needs.

Three quarters of the teachers reported that technical assistance is available in their school for help with such activities as program recording and equipment repair. Of those with access to technical assistance in the school, approximately two thirds used these services during the 1996–97 school year.

Sources of Funds for Video Equipment and Materials


Corporate sponsors 1%
Retail cash register receipts 8%
Other sources 5.7%
Federal grant funds 11.5%
PTA or other community group 7.5%
State grant funds 20.7%
Other school district funds 49.8%

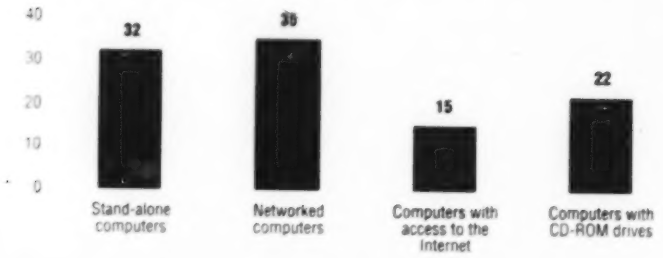
Encouragement for Use of TV and Video in Instruction



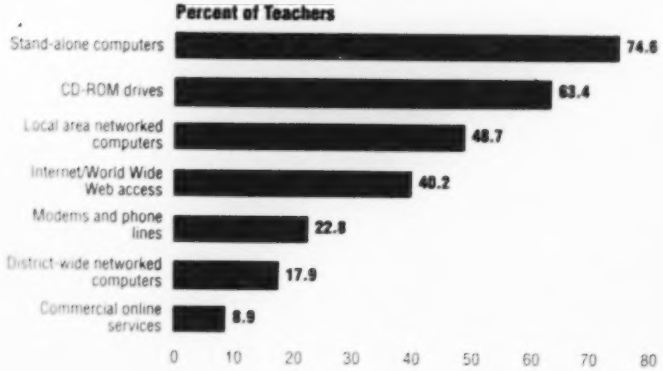
"Videos have replaced field trips and can take students places they couldn't otherwise afford to go." Slinger High School

"Some programs can present real life experience through the television. Some of our children don't get to experience a lot themselves. Some of the programs are like mini field trips." Richardson Elementary School

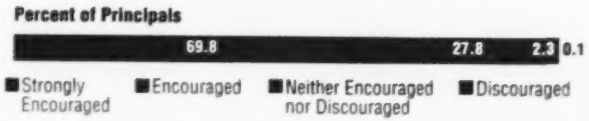
Average Number of Computers in a School



Computer Equipment That Teachers Use With Students



Encouragement for Use of Computers in Instruction



"The technology available with computers these days makes it harder to decide which medium to use at which point, but it's a nice dilemma." Oak Street Middle School

Classrooms are growing increasingly technology rich. To put TV and video use in perspective, this study also inquired about use of computers. The availability of computer technologies in the classroom continues to increase, along with that of TV and video. Virtually all schools—93.7%—have computers that are used in instruction. A typical school in 1997 had one computer for each full-time teacher.

A primary focus of schools over the past several years has been on increasing connectivity within the building and district through networks and with the larger world through the Internet. This connectivity is made possible in part by the number of schools that have been renovated in recent years. Although the average age of schools participating in this study is 40 years, over half of the schools have undergone a major renovation since the 1991 study. Often this new wave of remodeling included wiring of classrooms for telecommunications (74%) and major equipment purchases, such as televisions and computers (70%). Over the next few years, schools plan to take advantage of this infrastructure by increasing the number of networked computers available for instruction.

Use of computers in instruction is supported and encouraged by administrators. Schools are providing the financial support needed to maintain and update computer systems. Just over 70 percent of schools expect that expenditures for computer systems during the 1997–98 school year will be the same as (34%) or higher than (36%) the previous school year. The vast majority of teachers (93%) say that computers are now available for them to use with their students. While stand-alone computers (75% of teachers report using) and CD-ROM drives (63% report using) are most commonly used, computers with connectivity are available to 40 percent of classroom teachers.

The overwhelming majority of principals (98%) say that their districts either encourage or strongly encourage the use of computers for instructional purposes. To support the use of rapidly evolving computer technologies, school districts are providing teachers with training in computer use. Eighty-nine percent of teachers say they have received training in instructional uses of computers, and approximately half have received training specifically focused on use of multimedia (53%) or computer-based telecommunications (45%).

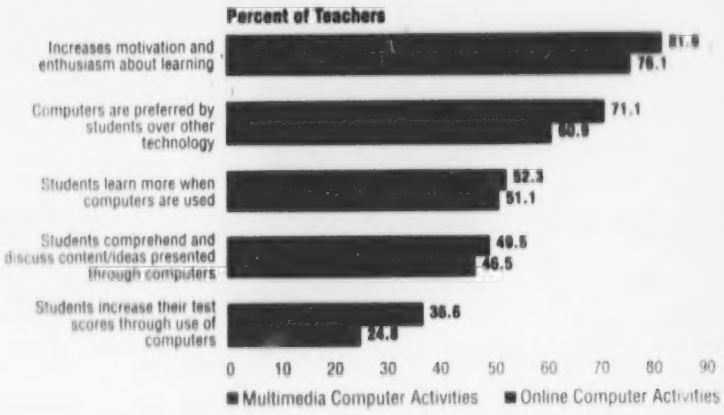
Teachers are positive about new computer technologies but are encountering some difficulties. Ninety-two percent of teachers agree that the quality of multimedia educational software is quite good, and 89 percent agree that the quality of materials available online is quite good. However, not all teachers have ready access, with 77 percent of teachers reporting lack of access to multimedia equipment and software and 59 percent lack of access to computers equipped for telecommunications. Of those teachers who do have access, a sizable percentage say they are encountering some challenges related to equipment use or curriculum integration.

Despite the obstacles, teachers appear motivated to continue and expand use of multimedia and online technologies, at least in part because of a belief in their positive impact on student achievement, behavior, and attitudes. As with use of TV and video, teachers have observed some negative effects of computer use, such as a decline in student behavior or attention span (16%) or students' difficulty connecting computer activities with lesson objectives (33%). However, teachers generally report positive effects from using multimedia and online technologies in classroom activities.

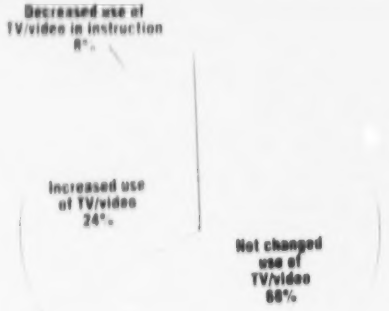
Teachers who have computers as well as TV and video available continue to use TV and video. The vast majority of teachers (86%) say that *both* TV and computers are available to them. When asked about the effect of computer technology on their TV and video use, most teachers say that computers have not changed their classroom use of TV and video, and nearly one quarter find that their use of TV and video has actually increased.

In general, TV and computers are being used as separate technologies (as reported by 68% of teachers) rather than in combination. However, teachers who do use them in combination tend to be those who say their use of TV and video has increased with the introduction of computers in the classroom. The most common combined use of the technologies appears to be use of the Internet to find out about TV programs and to research content related to a particular program. Less common are applications that merge the capabilities of the two technologies, such as displaying computer-generated announcements on the TV screens schoolwide, digitizing video and incorporating it into a multimedia presentation, or using a computer to connect with the instructor for distance learning instruction.

Student Outcomes Attributed to Computer Technologies



Effects of Introduction of Computer Technologies on TV/Video Use



"Computers have stimulated my use of television and video because they have made me more aware of technology." Delano Elementary School

"The advent of computers has forced me to use television and video more constructively." Inglewood High School

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Conclusion

As the fourth study in a series on school uses of television and video for instruction, the results of this study confirm some of the findings from the others but also chart the direction of classroom technologies into the next century. This investigation of instructional technologies through a national survey and in-depth interviews has yielded the following themes:

- TV and video are highly valued as teaching tools. The media are seen as especially effective for reaching visual learners and special populations.

- These technologies are being used in a more deliberate manner by teachers, and the materials are more fully integrated into curricula. As teachers use the media in this mode, they are looking for quality programming, programs of appropriate structure and length, and advance information to allow them to preview and tape.

- Teachers are open to all sorts of programming—public television, instructional television, cable and commercial stations, even movies—to find material suitable for their subject and students.

- Public television is regarded as an important asset in today's classrooms. Teachers overwhelmingly name PBS programs as most valuable and use them frequently because of their high quality and appropriateness.

- Schools are technology rich. Schools are increasingly gaining access to television through cable and satellite as well as direct broadcast, so teachers have a wider array of sources. Additionally, they are able to use the media more routinely, because schools continue to acquire equipment and teachers are resourceful in obtaining videotapes.

- Students and teachers are becoming more media savvy, increasingly using camcorders and other video production equipment (such as the school's TV studio and editing equipment).

- The focus on computer acquisition and use, though strongly supported by the school districts, has not replaced television in the classroom. Having various technologies available tends to make teachers conscious of the range of tools available to meet student needs.

- Teachers and students are just discovering the interplay among technologies. Examples include use of the Internet to access information related to a television program, use of online program guides, and manipulation of video images with a computer.

Appendix: Summary of Study Design and Methodology

The design of the 1997 Study of School Uses of Television and Video employed a stratified random sample of classroom teachers and school principals. The sampling procedure was designed to ensure to the extent possible that every public school teacher at each of the elementary, junior high, and senior high levels had an equal chance of being selected for participation as any other teacher at the same level; that estimates for each level had similar accuracy; and that national estimates could be obtained.

The sampling technique involved 1) stratification of all schools into elementary, middle, secondary, and unclassified; 2) division of each level into small and large schools; 3) selection of 1,000 small schools and 500 large schools with probabilities proportional to the number of students; and 4) instructions to the principal for random selection of one teacher from each of the small schools and of two teachers from each of the larger schools.

The survey was conducted by mail questionnaire, with separate instruments developed for principals and teachers. Data were collected during the period from February through June 1997. The procedure included a notification letter, an initial questionnaire mailing, a reminder postcard, at least two follow-up mailings, and telephone contacts through Macro International's computer-assisted telephone interviewing center.

Final participation rates were: 71 percent of principals, for a total of 1,059 responses—337 elementary, 342 junior high, 358 senior high, and 22 other; and 65 percent of teachers, for a total of 1,285 responses—392 elementary, 432 junior high, 431 senior high, and 30 other.

Completed questionnaires were processed at a central location and receipted through an automated survey control system. Keying of the data from the questionnaires was 100 percent key verified. Data were manually edited before data entry and machine edited before constructing the analysis file.

A sampling weight was assigned to each member in the original sample to account for unequal selection probabilities; the weights were further adjusted for nonresponse in an attempt to reduce, to the extent possible, potential bias resulting from such nonresponse. The adjusted weights were then used for estimating results for the total population of principals and teachers in the nation. Despite efforts to reduce error, the estimates in this study are subject to both sampling and nonsampling error. Variability in the estimates in this report were calculated and are presented in tables in the full technical report.

For a more complete discussion of the design and methodology employed in the 1997 Study of School Uses of Television and Video, please refer to the technical report.

Additional copies of this summary report are available for $5.

The full technical report for this study is available for $30 to nonprofit and government organizations and $60 to all others.

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